

Figure 1.

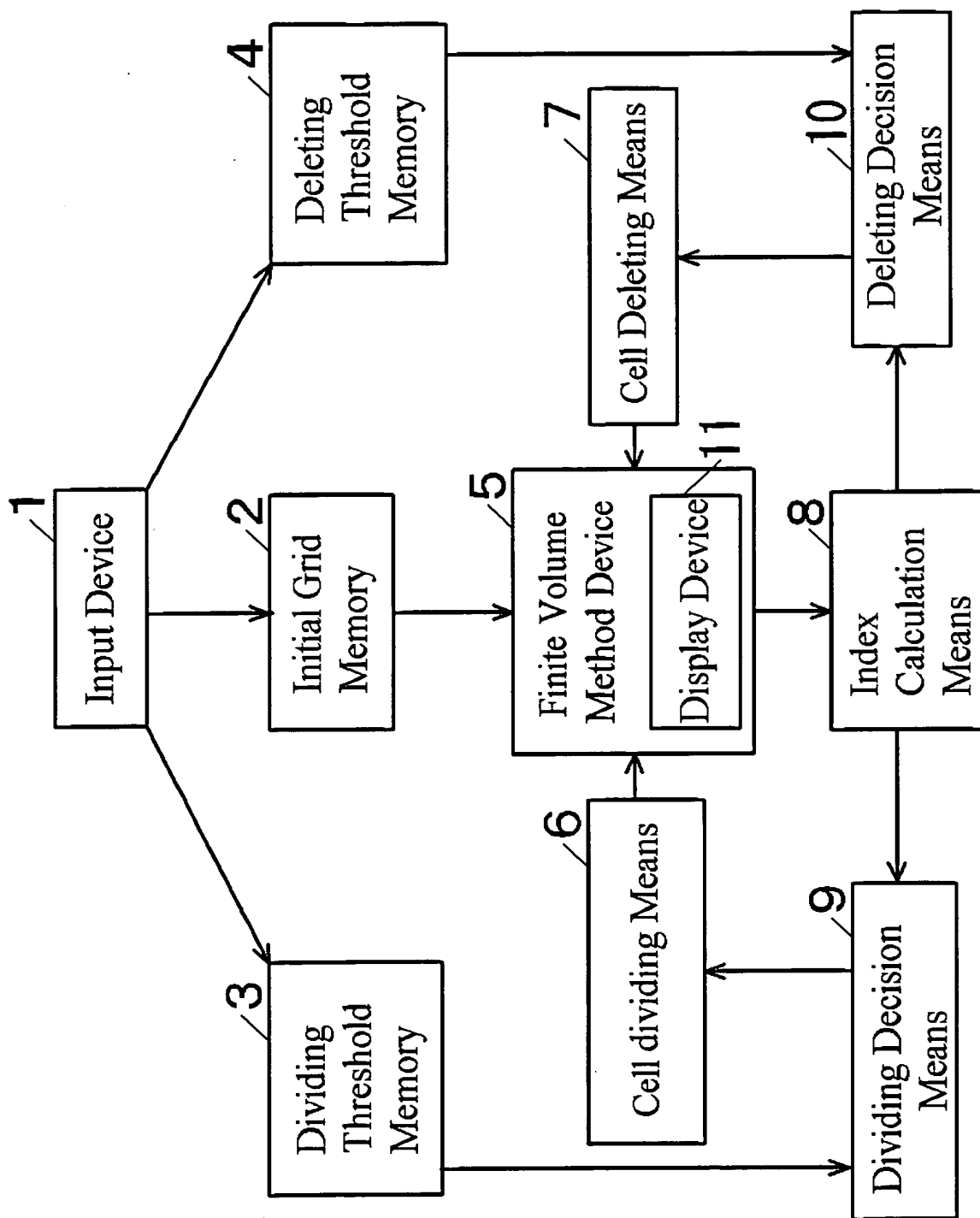


Figure 2.

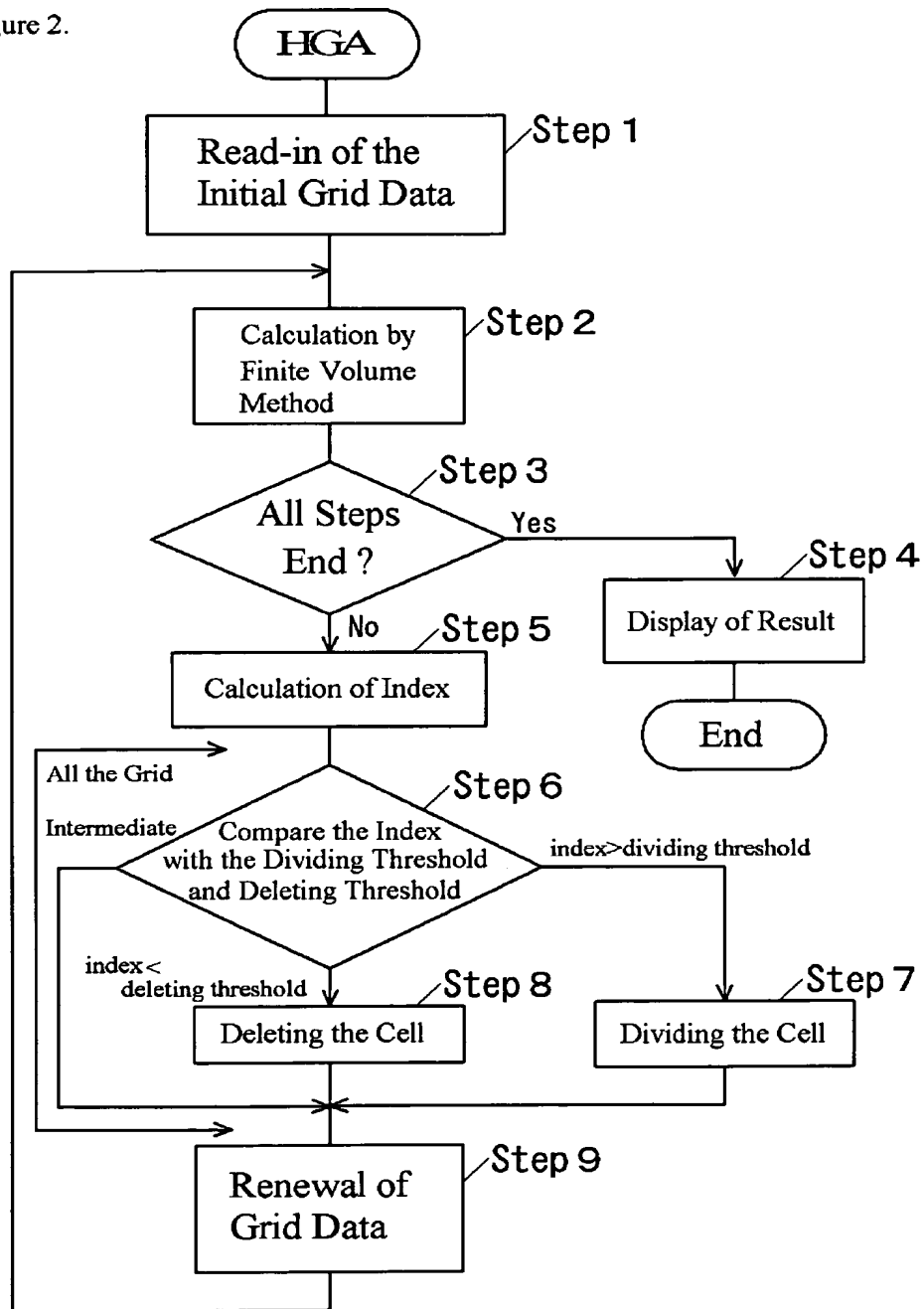
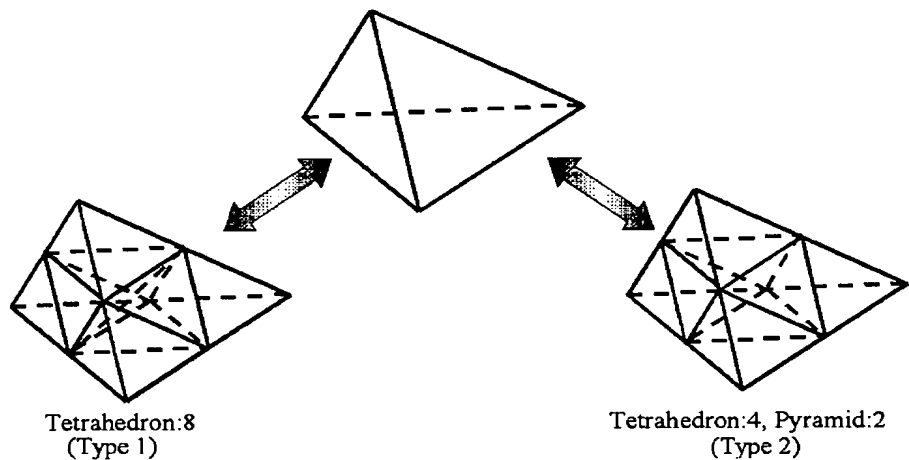
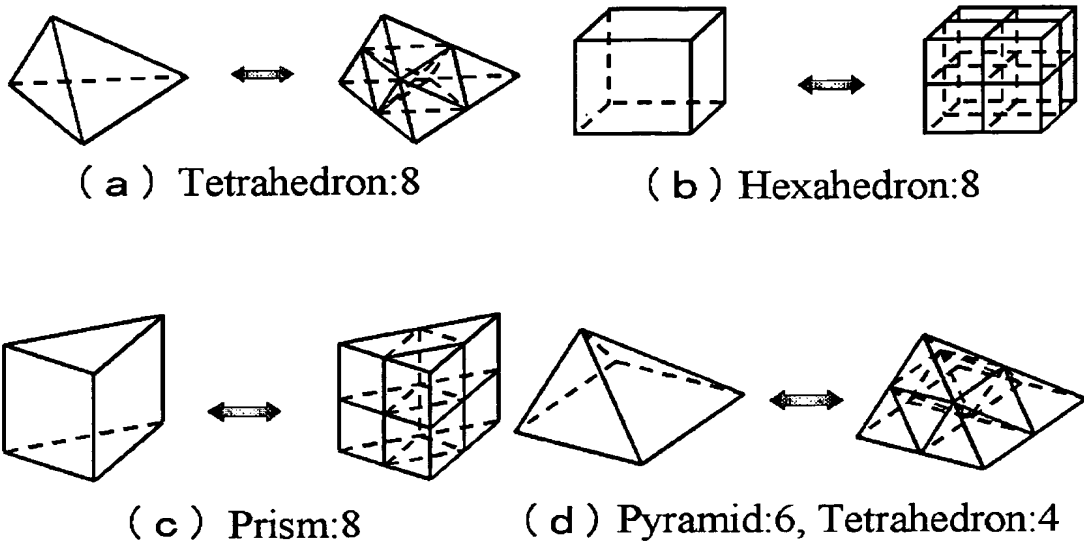


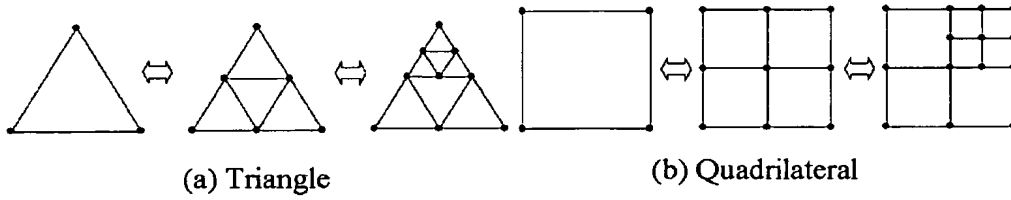
Figure 3.



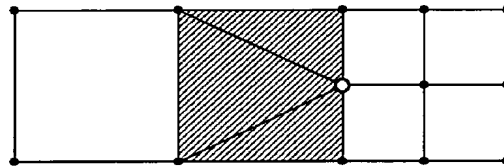
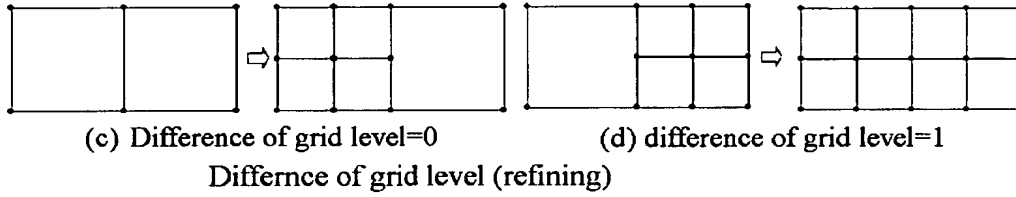
	Level 0	Level 1	Level 2	Level 3	Level 4
Tetrahedron:8 (Type 1)	1	8	64	512	4096
Tetrahedron:4 Pyramid:2 (Type 2)	1	6	44	328	2448

( e ) Division by 6 of tetrahedron

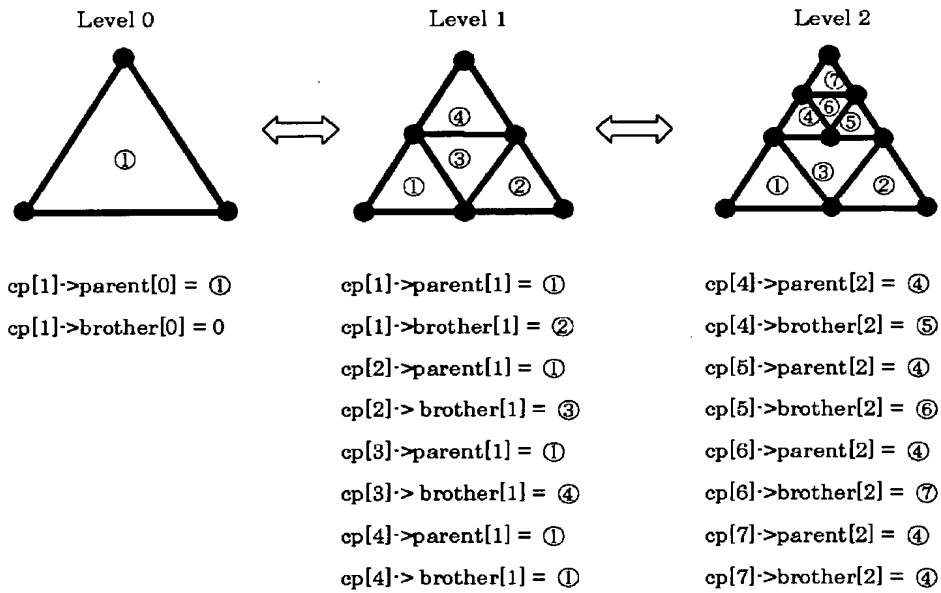
Figure 4.



Refining and coarsening of boundary surface of grid



(e) Hanging node and Temporary grid (2D, quadrilateral grid)



(f) Family Relation

Figure 5.

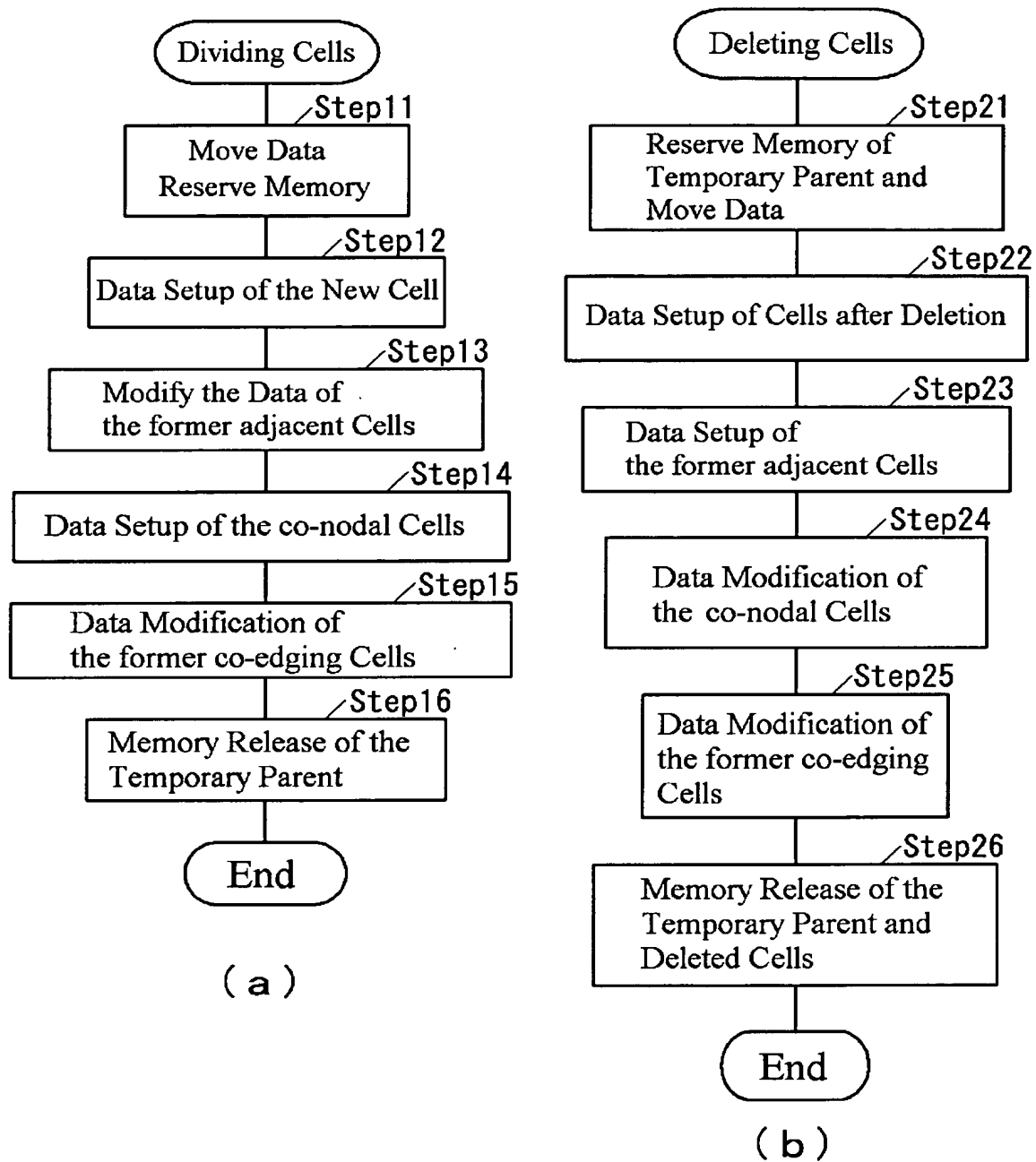


Figure 6.

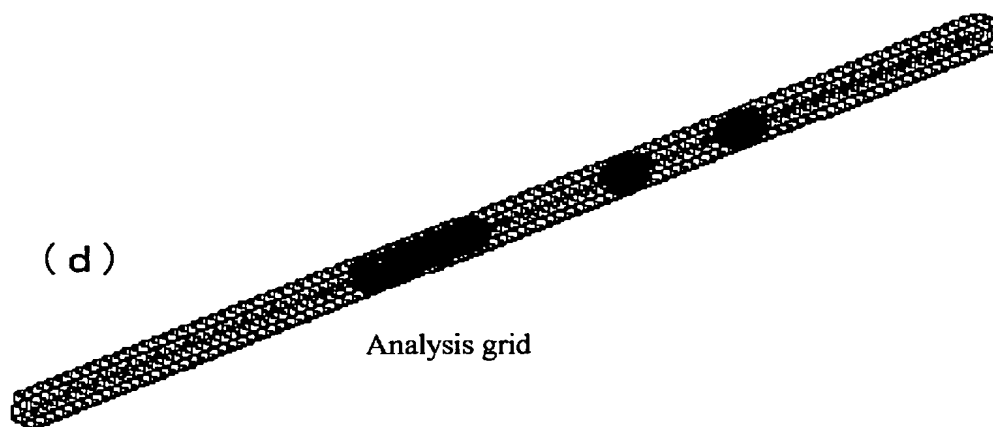
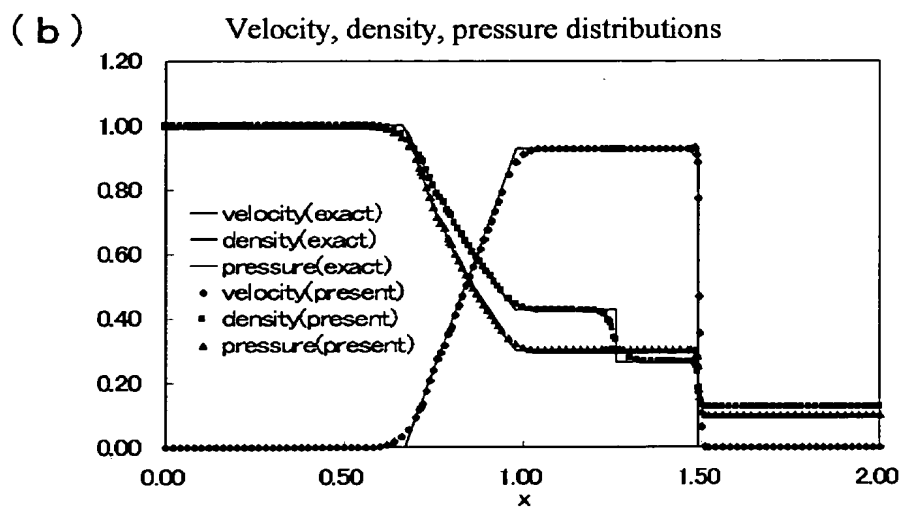
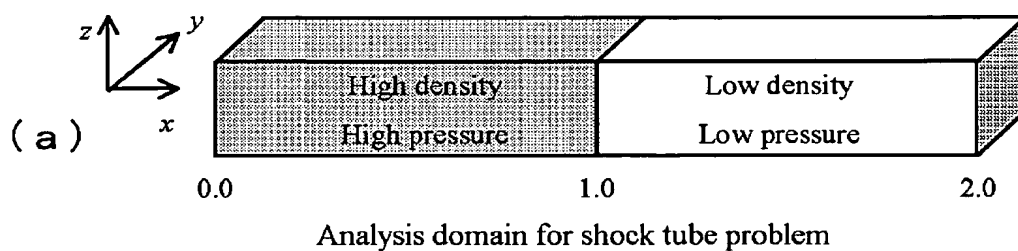


Figure 7.

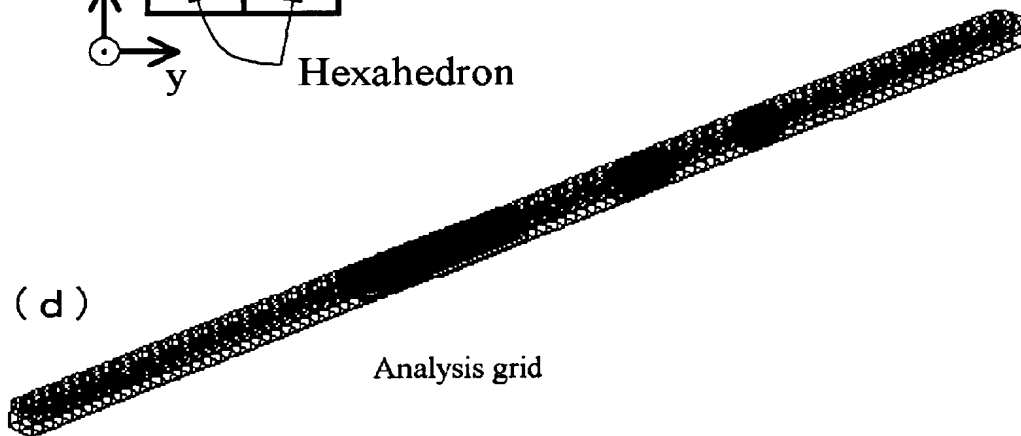
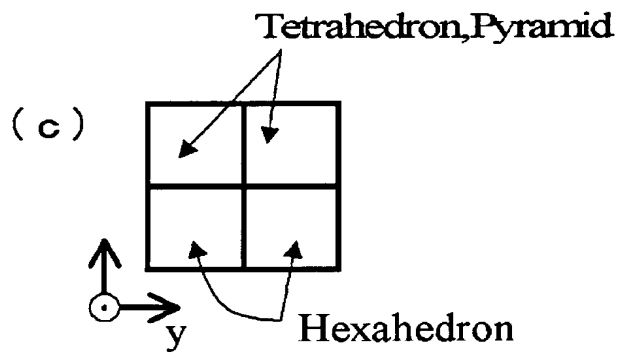
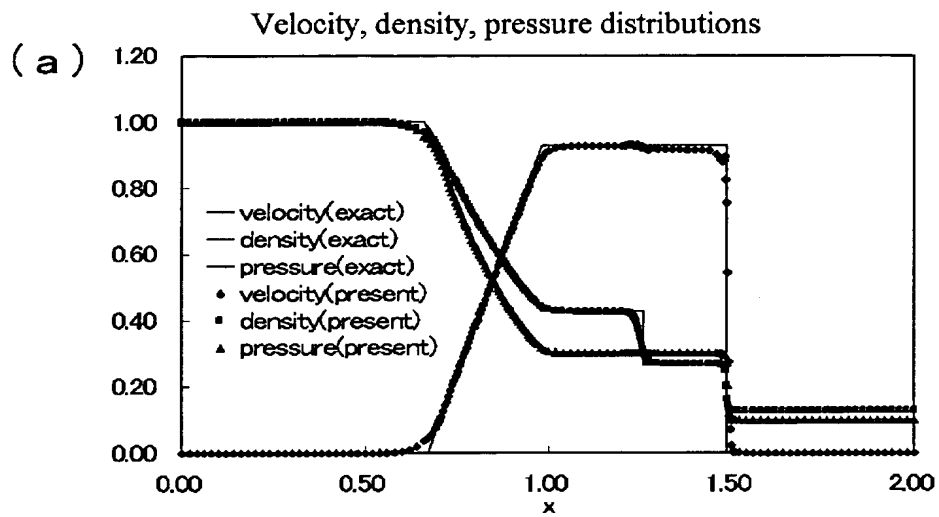


Figure 8.

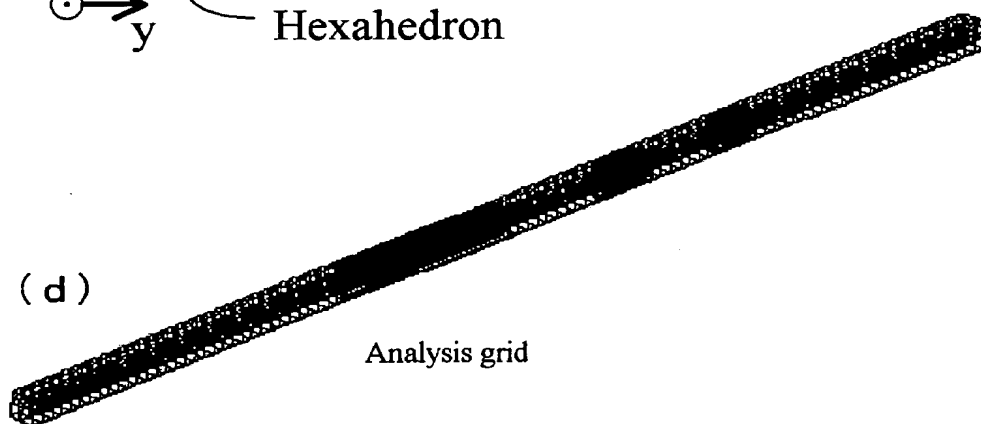
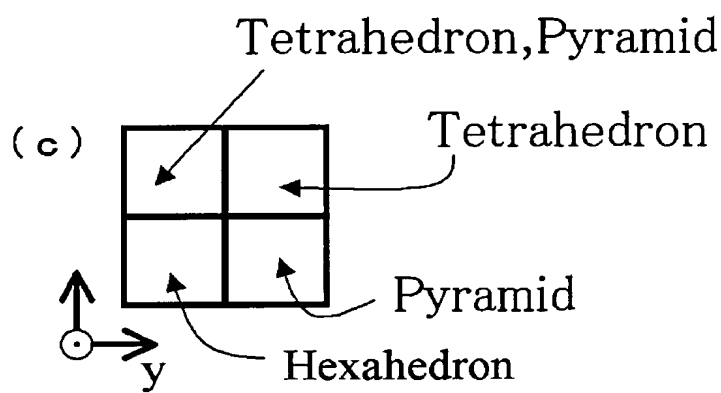
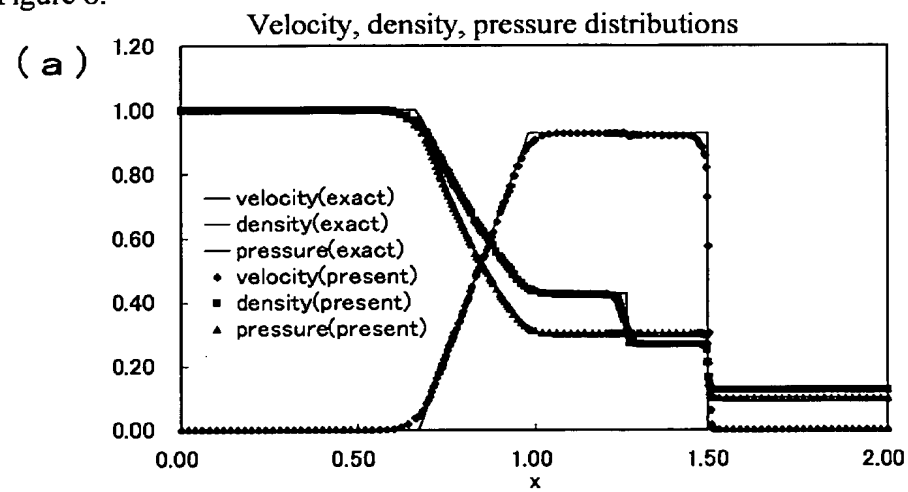
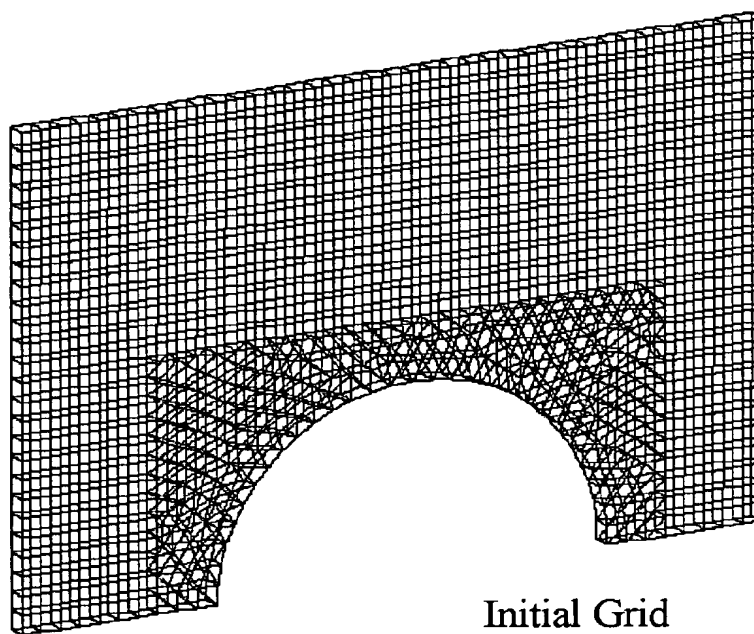




Figure 9.

(a)



(b)

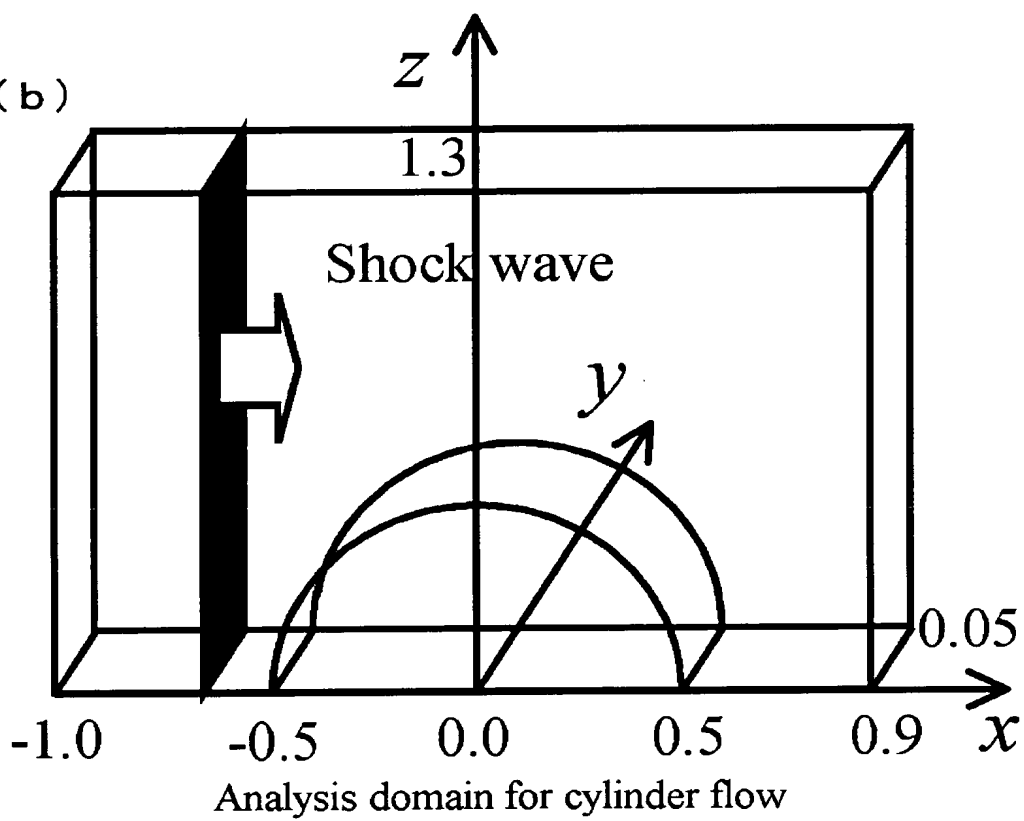
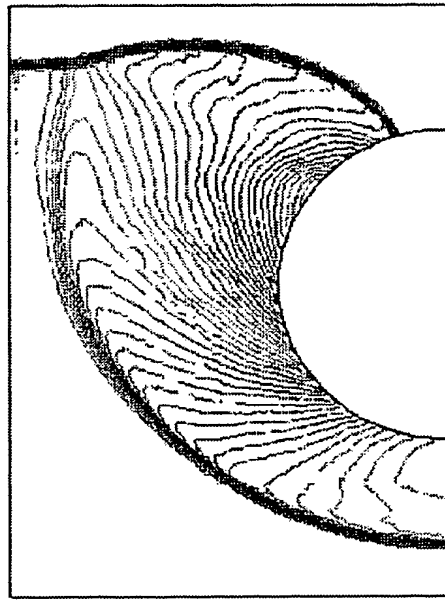
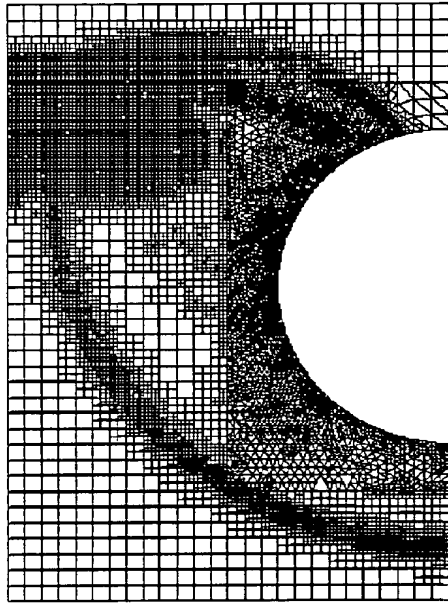


Figure 10.



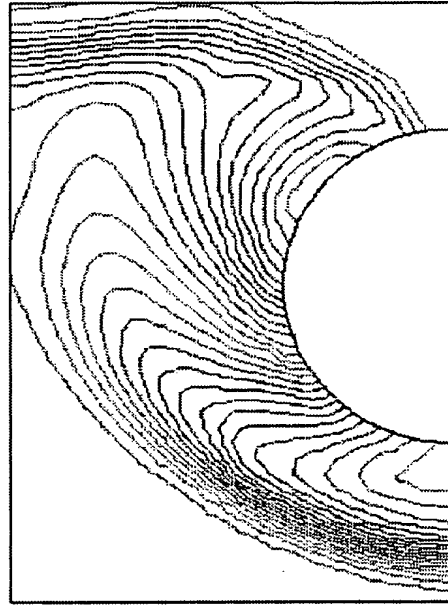
( a ) Density contours



( b ) Analysis grid (117729 cells)



( c ) Experiment (Bryson.A.E. and Gross.R.W.F)

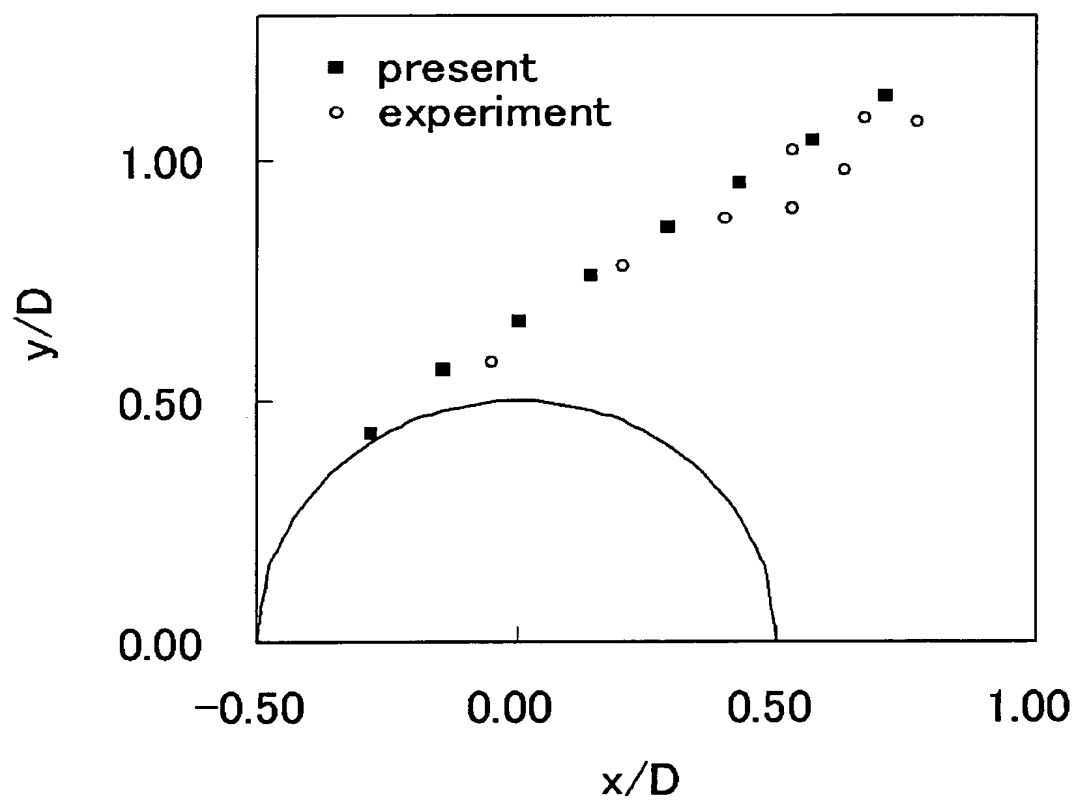


( d ) Density contours (without HGA)

Figure 11.



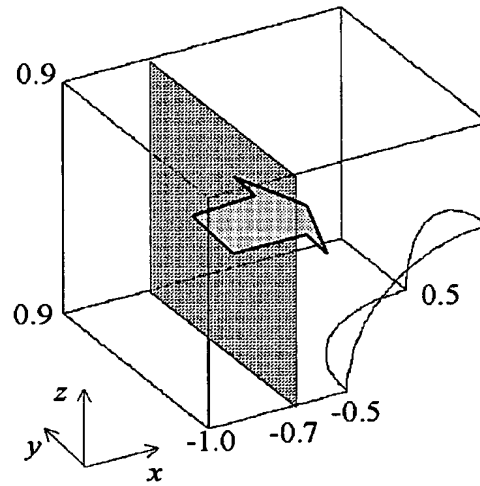
( a )



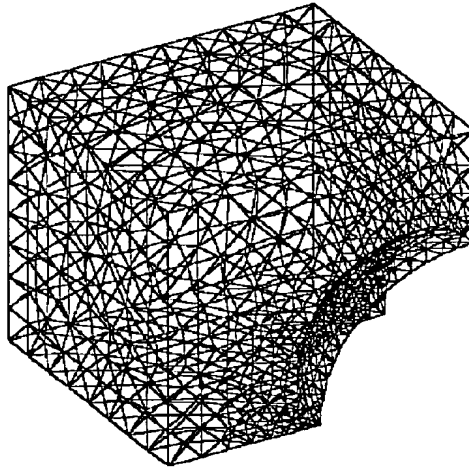
( b ) Trajectories of the Mach shock triple point for cylinder flow

Figure 12.

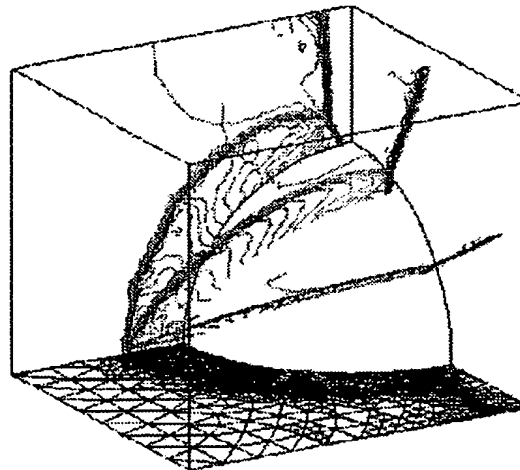
( a )  
Analysis domain  
for sphere flow



( b )  
Initial grid



( c )  
Density contours



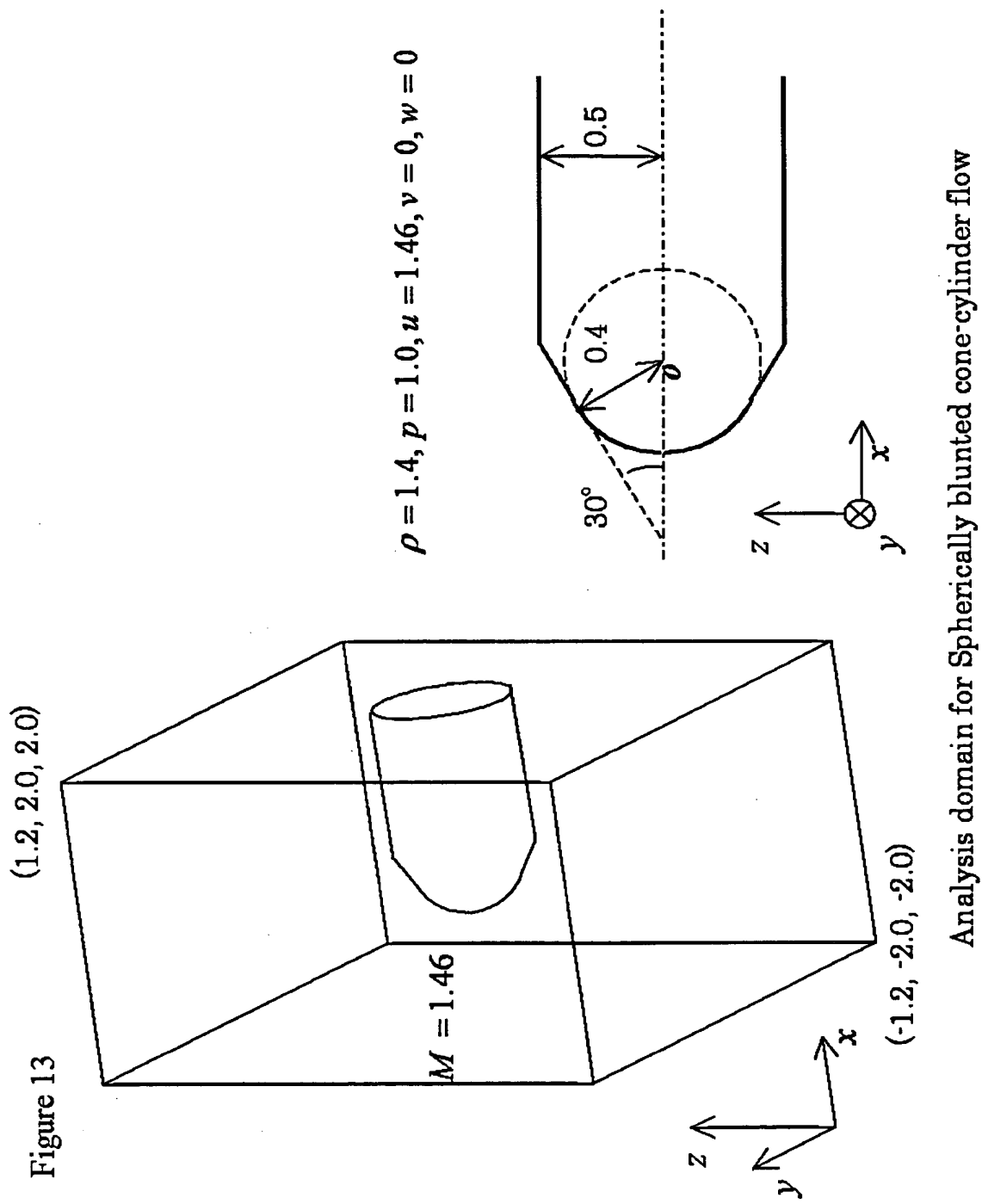
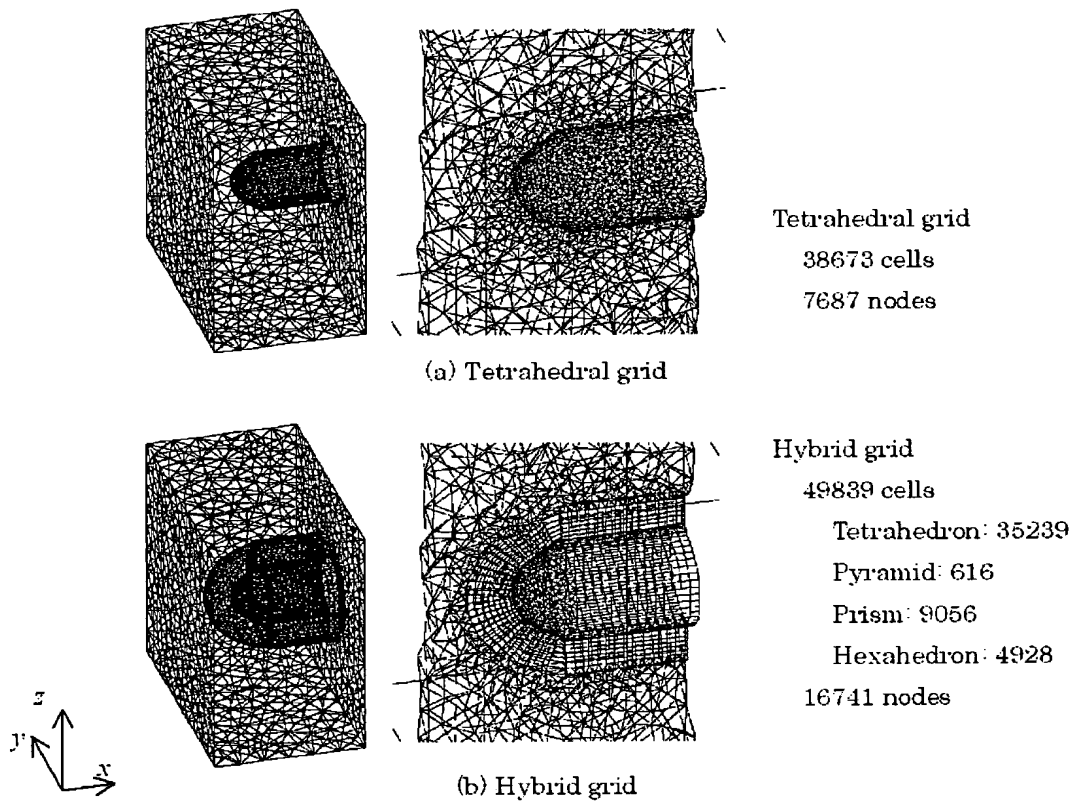


Figure 14

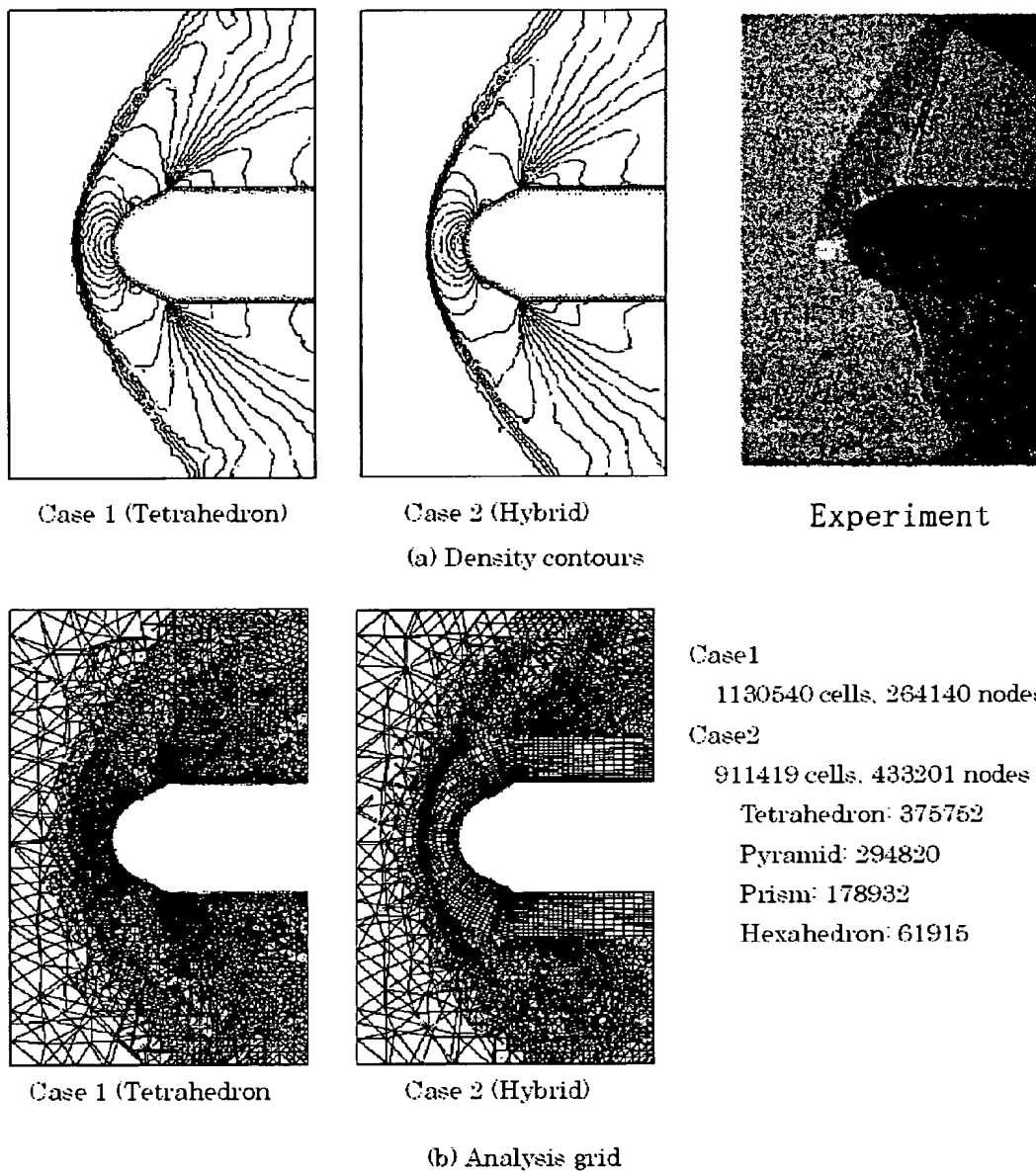
Table 1 : Analysis conditions for Spherically blunted cone-cylinder flow

	Case1	Case2
Initial grid	Tetrahedron	Hybrid
Adaptive type of Tetrahedral	Type1	Type2
Mach number	1.46	
CFL	0.5	



Initial grids for Spherically blunted cone-cylinder flow

Figure 15



Density contours and analysis grid ( $\gamma = 0.0$ )

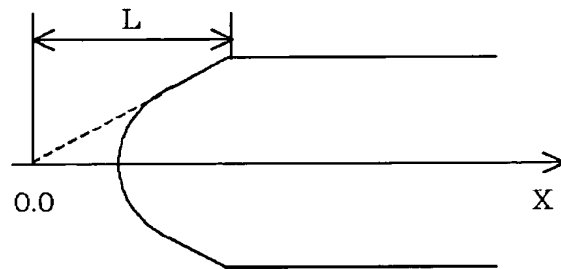
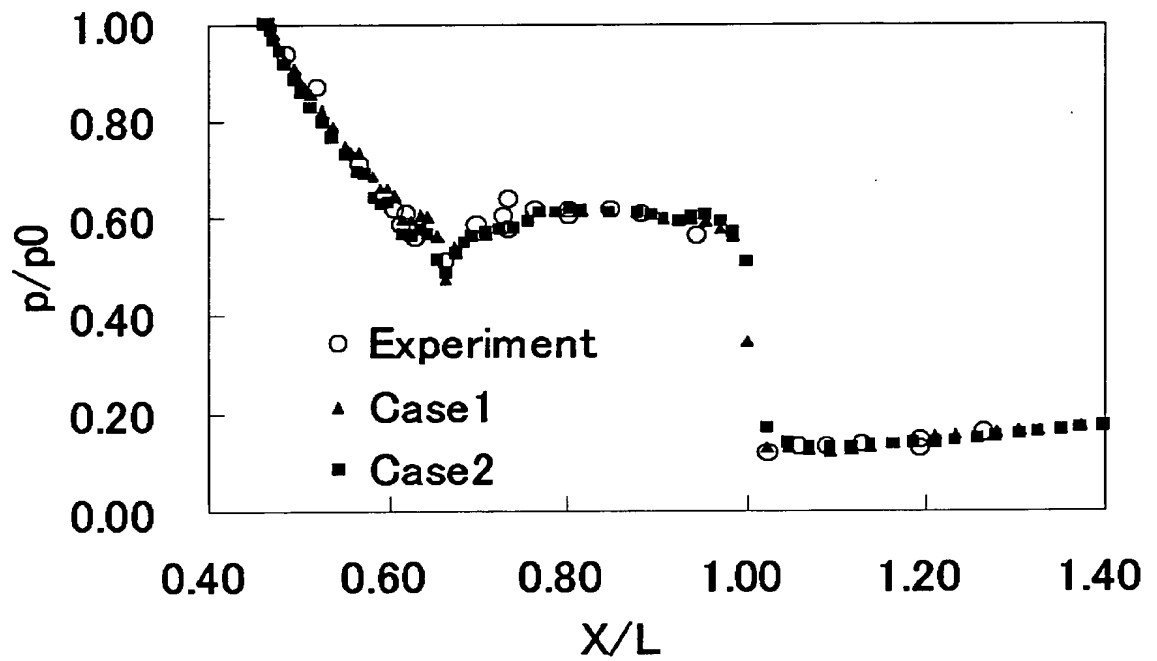


Figure 16a



Pressure distributions on the spherically blunted cone-cylinder  
(Comparison between the present and experiment )

Figure 16b



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